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IN THE

# Supreme Court of the United States

No. 313

RIPPLE SOLE CORPORATION,
Plaintiff-Petitioner,
vs.
AMERICAN BILTRITE RUBBER CO., INC.,
Defendant-Respondent

## PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIRST CIRCUIT and APPENDIX

EDWIN J. BALLUFF,
CHARLES R. McKINLEY,
3153 Penobscot Building,
Detroit 26, Michigan,
WARREN C. HORTON,
208 South LaSalle Street,
Chicago 4, Illinois,
BENJAMIN W. COLMAN,
17320 West Eight Mile Road,
Southfield, Michigan,
Attorneys for Plaintiff-Petitioner.

Of Counsel:
IRVING U. TOWNSEND, Jr.,
EMERY, BOOTH, MILLER & TOWNSEND,
79 Milk Street,
Boston 9, Massachusetts.

Interstate Brief & Record Co., 356 Congress St. E., Detroit 26, Michigan

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RIPPLE SOLE CORPORATION,
Plaintiff-Petitioner,
vs.
AMERICAN BILTRITE RUBBER CO., INC.,
Defendant-Respondent

## PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIRST CIRCUIT

Petitioner, Ripple Sole Corporation, prays that a writ of certiorari issue to review the judgment of the United State Court of Appeals for the First Circuit, affirming the decision of the United States District Court for the District of Massachusetts holding invalid Hack Patent No. 2,710,461, for "Resilient Shoe Soles".

### Opinions Below

The Opinion of the United States Court of Appeals for the First Circuit is reported at 302 F. 2d 2. The Opinion of the United States District Court for the District of Massachusetts is reported at 192 F. Supp. 551 (R. 6).

## Jurisdiction

The judgment of the Court of Appeals (see Appendix hereto) sought to be reviewed was entered May 3, 1962. A Petition for Rehearing (R. 753) filed on May 16, 1962, was denied without opinion on May 22, 1962 (R. 781). A Motion for Leave to File a Petition for Reconsideration of such Petition for Rehearing based on a change in the defendant's position occurring after the Court of Appeals' decision was filed June 27, 1962, and denied without opinion on June 28, 1962.

This Court has jurisdiction under 28 U.S.C. 1254 (1).

## Questions Presented

1. Where the patented shoe sole for the first time achieves the novel and beneficial result or function of "forward propulsion" never before contemplated in the shoe sole art, does 35 U.S.C. 101 require that such novel result or function be present to a particular degree or extent in order to sustain the validity of the patent thereon?

2. Was the Court of Appeals warranted in holding such patent invalid on the ground that plaintiff did not prove that the patented sole produces the advantages asserted in the patent, contrary to the statute (35 U.S.C. 282) which places on the defendant the burden of establishing invalidity and consequently lack of utility?

3. Was the Court of Appeals warranted in holding such paatent invalid as anticipated by a foreign patent where such foreign patent does not teach the invention claimed or the novel function, and the Court found it necessary to substantially reconstruct the disclosure of such foreign patent in the light of the patent in suit in order to find such an-

ticipation, contrary to the long-established rule of law limiting a foreign patent for anticipation purposes to what is clearly and definitely expressed in it?

### Statutes Involved

The following sections of the patent statutes are here involved:

35 U.S.C. §101: Inventions patentable

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35 U.S.C. §282. Presumption of validity; defenses

> A patent shall be presumed valid. The burden of establishing invalidity of a patent shall rest on a party asserting it.

## STATEMENT OF THE CASE

### The Invention of the Hack Patent

This is a suit for infringement of Hack patent No. 2,710,461, issued June 14, 1955, for "Resilient Shoe Soles." The patent discloses and claims a resilient shoe sole formed with a series of spaced, parallel, resilient, ground engaging projections or ribs which are rearwardly inclined and transversely disposed relative to the length of the sole. As a shoe with the patented sole is rolled down in a normal walking stride, the rearwardly inclined ribs, which are provided throughout the length of the sole and heel, successively flex or yield under the weight placed thereon to move

the shoe and foot forward a slight distance, thereby effecting what is referred to as "forward propulsion" action. The rearwardly inclined resilient ribs act as hinges with their lower ends being rounded and constituting fulerums about which the ribs bend under weight to move the foot forward. The successive flexing action of the ribs as the Hack sole is rolled down while it is in contact with the ground moves the shoe and foot therein a distance of from one-half to one inch (R. 68) ahead of where they would be with a conventional sole.

Hack's resilient sole with spaced rearwardly inclined ribs contributed the new and beneficial function of forward propulsion to the shoe sole art. The ribs successively and independently flex downwardly and forwardly after contact with the floor as weight is brought to bear on the sole as in walking, thus causing the shoe and the foot of the wearer to move forward relative to the floor in a downward and forward cushioning movement. The resilient ribs are spaced relative to one another so that in flexing they are free to act independently and the flexing of one rib does not interfere with or limit the flexing of the adjacent rib.

In addition to the unique advantage of forward propulsion obtained from the construction disclosed and claimed in the Hack patent, the patented sole also provides increased resiliency (beyond that due to the material used) because of the successive flexing of the ribs and the cushioning action that they provide, and increased comfort and reduction in shock due to the cushioned, gradually increasing resistance to forward motion provided by the ribs. The forward motion of the shoe is not abruptly stopped after heel strike occurs as in conventional shoe soles but rather continues as the forward propulsion action takes place, thereby lessening the shock, reducing fatigue, and increasing comfort.

The forward propulsion action of the Hack sole was demonstrated at the trial in a number of ways, in one of which, the so-called "rocking test", the subject would place his heel on a line and then rock from heel to toe to simulate the "roll down" of the foot in normal walking. The rocking test clearly demonstrated a measurable forward movement of the shoe with each rock of from one-half to one inch. The rocking test is referred to in defendants' Exhibit GG (R. 565-676), a report by Dr. Peter V. Karpovich *et al.*, entitled "Physiological and Kinesiological Methods for Testing Footwear." The Karpovich report is the result of an investigation by Dr. Karpovich, of the Department of Physiology at Springfield College in Massachusetts for the Quartermaster Research & Engineering Command of the United States Army at Natick, Massachusetts. In his investigation Dr. Karpovich tested several types of Army shoes having both conventional soles and the Hack sole. In his report on the results of the comparative tests of the various soles, Dr. Karpovich states:

> "The gliding action of the Hack sole increased the length of step about one inch over the standard sole" (R. 610).

In referring to the rocking test which he conducted as part of his investigation, Dr. Karpovich states:

> "If a man wearing Hack sole boots stands with his heels on a mark on a smooth surface and then rocks from heel to toe, a forward progression will easily be seen. If his rocking is moderate, he may move a total of 5.0 cm. in ten rocking motions or .5 cm. per motion. More vigorous rocking will increase this distance to 1.4 or 1.5 cm. per motion. This does *not* happen in shoes with *standard soles*"[1] (R. 608).

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[1] Emphasis added throughout unless otherwise indicated.

The rocking tests demonstrated at the trial prove that the forward propulsion obtained only with the Hack sole occurs even without the impetus of any forward thrust of the foot and that it occurs independently of any skid or slide that might result from heel strike. The length of the "roll down" footprint is obtained by placing the heel on a walking surface and then rolling the foot and shoe down as is done in ordinary walking while shifting the body weight on the foot from heel to toe. The increase in footprint length obtained only with Hack's sole is due to the forward propulsive action of the successively flexing ribs and this means that the increased stride length that is thus obtained is a net gain with each step taken and does not require the wearer to take any longer step from toe-off to heel-strike. For example, if a person has a stride of 30 inches measured from heel-strike to the next heel-strike and the outsole measured from heel to toe is 12 inches, he will travel 30 inches with each stride in conventional shoes and his step as measured from the toe of the rear foot to the heel strike of the forward foot will be 18 inches. Wearing shoes equipped with Hack soles of the same length he will travel 30.67 inches (using the ⅔ inch gain in stride length found by Dr. Karpovich) with each stride even though the step as measured from the toe of the rear foot to the heel strike of the forward foot remains at 18 inches and therefore requires no greater expenditure of energy than is expended in covering the shorter distance with conventional shoes. The ⅔ of an inch increase in stride length therefore represents a bonus of about 2% over conventional shoes in the example given. The forward propulsion of ⅔ of an inch is taken from Table 9 (R. 597) of the Karpovich report.

The increase in strike length due to Hack's forward propulsion means that a person can save up to 60 or 65 steps in walking one mile without having to take a longer step from toe-off to heel-strike. This gain is obtained

not because the normal length of the Hack sole is any longer than a conventional sole used for comparison, but rather because the roll-down length of the Hack sole is greater than its actual or normal length due to the flexing of the ribs.

The important and the beneficial result produced by Hack's novel ribbed construction is seen from the testimony of defendant's expert, Dr. Woodcock, who testified:

> "It might buy you—might conceivably buy you a more rapid rate of walking with the same effort or energy consumption or it might buy you less energy consumption at the same rate of walking" (R. 334).

Plaintiff's expert, Dr. Morehouse, described the advantage of forward propulsion as follows:

> "You not only get there more quickly but you get there with less energy" (R. 141).
>
> "* * * you save energy, there is less fatigue, it is more comfortable, there is less stress and strain on the feet and legs" (R. 146).

The findings of Dr. Karpovich in his report *introduced by defendant that* "The gliding action of the Hack sole increased the length of step about one inch over the standard sole" stands undisputed.

After trying for many years to interest the shoe industry, Hack finally succeeded in getting the Beebe Rubber Company, of Nashua, New Hampshire, to manufacture the soles on the condition that Hack would, at his own expense, furnish the molds for making the soles and be responsible for the selling, billing, advertising, and promotion of the soles (R. 233). As shown by the following tabulation of sales figures taken from R. 400-403, the sales of Hack's RIPPLE soles soon reached impressive figures.

**Sales of Hack Soles, Heels and Taps to Shoe Manufacturers up through 1960**[2]

| Year | Pairs of Soles | Pairs of Heels & Taps | Dollar Sales |
|---|---|---|---|
| 1955 (June-Dec.) | 14,637 | ..... | $ 18,475.54 |
| 1956 ..... | 148,026 | 476 | 190,127.43 |
| 1957 ..... | 1,219,576 | 9,559 | 1,433,614.14 |
| 1958 ..... | 3,531,082 | 54,445 | 4,075,753.27 |
| 1959 ..... | 3,165,186 | 92,849 | 3,540,407.39 |
| 1960 ..... | 1,338,075 | 79,186 | 1,418,451.50 |
| | 9,416,582 | 236,515 | $10,676,829.27 |

In view of the Biltrite infringement here involved and the extensive copying in the industry and in Japanese importations (R. 237, 262, 409-424), it is not surprising that the licensed sales of the patented soles have been adversely affected. Fourteen suits have been filed in an effort to suppress such infringements (R. 404-406).

**The Prior Art**

The defendant offered some twenty-two prior art patents (R. 465-536) in support of its defense of invalidity. The prior art shows ribbed traction soles of various shapes and designs, but none of the prior art patents, however, teaches Hack's concept of forward propulsion or even recognizes that such a result could be obtained. None of the prior art patents discloses a resilient shoe sole having a series of spaced, prominent, rearwardly inclined ribs extending transversely across the sole from heel to toe so that

[2] The sales of the patented sole since the trial continue at a pace very substantially in excess of the sales figures for 1960, despite the Court's findings that it had failed to capture any substantial segment of the market and that it was a fad.

the ribs successively flex as the shoe is rolled down to move the shoe forwardly and obtain forward propulsion.

The only patent held to constitute an anticipation of the Hack patent is Lacoste French patent No. 902,385 of 1944. Lacoste discloses a wooden shoe sole made out of a block of wood having a series of narrow saw cuts intended to give the wooden sole some degree of flexibility instead of being rigid and unyielding as is characteristic of wooden soles without the saw cuts. Lacoste says nothing about forward propulsion and obviously since wood is not resilient, the closely spaced inclined segments left by the saw cuts would not bend or flex and hence could not move the shoe forward as it is rolled down in walking. The Lacoste sole was designed during World War II as a substitute for conventional leather or rubber soles which were difficult to obtain due to wartime conditions. All that Lacoste sought to do was provide a wooden sole that would have some degree of flexibility so that during walking the sole could bend with the foot along transverse lines progressing from heel to toe. This, Lacoste said, could be accomplished by the series of saw cuts which supposedly would weaken the platform portion of the sole sufficiently to allow some degree of the bending or flexibility that is obtained with a conventional rubber or leather sole. Lacoste does not teach the use of saw cuts in a rubber or leather sole for the obvious reason that a rubber or leather sole already has the flexibility that Lacoste sought to impart to a wooden sole. There was no evidence to show that the Lacoste wooden sole would function as asserted by Lacoste or had any practical significance in the shoe art.

## ARGUMENT

### 35 U.S.C. 101 Does Not Require That a New Function or Result Must be Present to Any Particular Degree or Extent to Constitute Patentable Invention

In dismissing Hack's invention as but a trifling device contributing little if anything to the real advancement of the art, the Court of Appeals read into 35 U.S.C. 101 a novel requirement that is not found in it, and established a rule in the First Circuit which is contrary to the established law. The District Court made the same error in characterizing the new result of forward propulsion as a minuscule benefit which is hardly the type of useful discovery which rises to the dignity of patentable invention. 35 U.S.C. 101 merely says that anyone who invents or discovers *any* new and useful manufacture or *any* new and useful improvement thereof may obtain a patent. This section of the statute does not say how much of an improvement has to be made or how useful the improvement has to be, and no case that we have been able to find establishes any requirement that a new function must be present to a particular degree. It is enough if some improvement has been made and if some utility is present, providing the other requirements of the statute are met. While we thoroughly disagree with the characterization of Hack's contribution as a minuscule benefit or a trifling device, the important point here is that the Courts below were measuring validity of the Hack patent not by the statutory or any other recognized standard of invention but by a new standard based on their personal views as to the merits or usefulness of the improvement made by Hack.

Where the evidence here shows the sale of almost ten million (10,000,000) pairs of Hack's patented sole in the face of extensive copying by the defendant and others, the Courts below have no justification in dismissing Hack's

sole as a trifling device. Certainly the many wearers of Hack soles who are required to be on their feet many hours a day in their work, such as doctors, nurses, mailmen, factory personnel, and the like, who save hundreds of steps a day merely by wearing shoes with Hack soles, would not agree with the characterization of Hack's invention as a miniscule benefit or a trifling device.

In holding the Hack patent invalid for lack of invention on the ground that it contributes little if anything to the real advancement of the art, the Court below has placed an interpretation on 35 U.S.C. 101 that is contrary to the long-established and recognized meaning of this section of the statute or comparable sections of the earlier statutes. The decisions have always held that, as long as an invention is capable of some beneficial use and is not frivolous or mischievous to society, a patent may be obtained. *Lowell v. Lewis*, 15 Fed. Cas. 1018, *Cusano v. Kotler*, 159 F. 2d 159 (C.A. 7). Once it is determined that a new and useful invention or improvement has been made, then the other provisions of the patent statute, *i.e.*, the obviousness test and the conditions for patentability in Section 102, must be considered to determine whether the invention is patentable. Section 102 states that "a person shall be entitled to a patent unless—" and there follows a number of statutory bars to granting of a patent. This section contains no requirement whatever as to the extent or the degree of utility required to sustain patentability.

An early text, *Robinson on Patents* (1890), states the following as to the extent of utility necessary to support a patent:

§341 *Degree of Utility Immaterial.*

"When actual utility exists, its degree is unimportant. However slight the advantage which the public

> have received from the inventor, it offers a sufficient reason for his compensation; and as he could withhold this slight advantage if he chose, his surrender of it to the public places him on the same plane of merit with every other inventor."

As earlier text, *Curtis on Patents* (1849), says:

> "* * * it follows that every invention for which a patent is claimed, must be, to a certain extent, beneficial to the community; it must be capable of use, for *some* beneficial purpose; but when this is the case, the degree of utility, whether larger or smaller, is not a subject for consideration, in determining whether the invention will support a patent."

In *National Stug Rejectors, Inc. v. A. B. T. Mfg. Corp.* (CCA 7), 164 F. 2d 333, Judge Evans stated:

> "It is not the extent of the utility that governs, but the existence of *some* utility."

The Court of Customs and Patent Appeals in *In re Nelson et al.*, 280 F. 2d 172, in recently reviewing the statutory requirement of utility, cited with approval the above quoted and other texts and early court decisions on the question of the extent or degree of utility required to support a patent, and stated:

> "While in the course of time the courts have evolved a policy, not in the statutes until 1952 but now set forth in 35 U.S.C., 103, that there must be present a certain degree of novelty or 'invention' or unobviousness for whatever else one may choose to call it, *it has never been laid down as a requirement for patentability that there must be any particular degree of utility*, although degree of utility has been regarded at times as an indication of the presence of 'invention'."

Thus in holding the patent invalid because of its belief that the type of improvement made or the extent of the advance in the art that it represents is not appreciable or significant, the Court below has applied an erroneous standard of invention that is not authorized in the patent statutes. While the amount of forward propulsion obtained with the Hack sole is generally between one-half inch and one inch with each step taken, there is no legal or rational basis for characterizing such result, which is both new and useful, as trifling or as minuscule benefit. As the concept of forward propulsion was unheard of prior to Hack, it is more logical to characterize Hack's invention as an unusual or surprising consequence from the unification and arrangement of the elements of the claimed structure.

The Court of Appeals' reliance upon *Atlantic v. Brady*, 107 U. S. 192, in support of its conclusion that Hack's invention is a trifling device is unwarranted and misplaced. In *Atlantic v. Brady*, the Court condemned the patenting of

> "every trifling device * * * which would *naturally and spontaneously occur to any skilled mechanic* or operator in the ordinary progress of manufactures."

The Court was thus applying the obviousness test to the patent there involved and cautioning against the patenting of devices which were obvious to those skilled in the art. Such a test of course is an appropriate test under the patent statutes and under decisions of this Court, *A. & P. v. Supermarket*, 340 U. S. 147. But that is not the ground on which the Courts below held the Hack patent invalid. The Courts have in effect held the patent invalid for lacking sufficient utility when the statute contains no requirement as to the extent or degree of utility or usefulness that must be present to constitute patentable invention.

The decision of the Court of Appeals on the question of the extent or degree of utility necessary to support a patent is in direct conflict with the established Patent Office practice on this point, which is governed by the decision of the Court of Customs and Patent Appeals in *In re Nelson et al., supra*, and is in direct conflict with and represents a substantial and unwarranted departure from the rule prevailing in other circuits on this important question.

Certiorari should be granted in this case in order that this Court may resolve the conflict between the rule now established in the First Circuit and the rule followed by the other Circuits and the Patent Office and the Court of Customs and Patent Appeals on the question of the degree of utility necessary to support a patent.

**The Court of Appeals' Decision Places a Burden of Proof on a Patent Owner That is Contrary to 35 U.S.C. 282 and in Conflict with the Decisions of This Court**

The basis of the District Court's decision holding the Hack patent invalid, aside from the question of anticipation by Lacoste, lies in the Court's statement that

> "* * * it cannot be found that the Hack structure produces any of the advantages claimed for it" (R. 12).

The Court of Appeals' decision recognizes that Judge Ford's decision was based on the finding

> "* * * that the *plaintiff had not shown* that the patented structure substantially increased the wearer's stride or that any advantage by way of saving energy or otherwise resulted from any increase in stride that it might produce, or that any increase in comfort or reduction of shock, and consequently fatigue in walking, was due to the structure rather than to the cushioning effect which might be produced by any sole of similar resilience."

The Court of Appeals thereupon found the patent invalid, stating:

> "• • • for the most that can be said for the Hack structure is that it is but a 'trifling device' contributing little if anything to the 'real advancement' of the art to which it pertains."

It is clear from the above not only that the Courts ignored the evidence of record showing that the Hack sole does achieve forward propulsion, but also placed a burden of proof on the plaintiff that is specifically contrary to 35 U.S.C. 282, which states that a patent shall be presumed valid and the burden of establishing invalidity is on the party asserting it.

A patent in order to be valid must have novelty and utility and must exhibit invention. If a patent is presumed valid as the statute requires, then it must be presumed to have both novelty and utility. The utility claimed for the Hack patent is that of providing forward propulsion. Thus, when the Courts below said that they could not find that the patent has any of the advantages claimed for it, they in effect held that the patent has no utility; in other words that the Hack structure will not produce forward propulsion.

There is no evidence of record to support the conclusions below that the Hack patent will not produce its claimed advantage of forward propulsion. The trial demonstrations referred to hereinbefore, the Karpovich report, and even testimony of defendant's expert witness, Dr. Woodcock (R. 346-348), prove conclusively that the Hack sole does achieve its claimed advantage of forward propulsion. The other advantages of increased resiliency and comfort flow naturally from the new result of forward propul-

sion. The District Court proceeded on the erroneous assumption that the burden was on the plaintiff to prove by objective tests that all of the advantages asserted for the Hack sole were in fact achieved, whereas the patent statutes place the burden on the defendant to prove otherwise.

Defendant's conduct in now adopting its "Magic Tread" sole (identical in all respects to the Hack commercial sole) subsequent to the decision of the Court of Appeals[3] is proof enough of the fact that the patented sole has utility not only within the meaning of the patent statutes but great commercial utility and significance as well, and defendant should be estopped to deny that the Hack sole achieves its claimed advantages as it argued before the Trial Court and the Court of Appeals. The defendant here, as in *Diamond Rubber Co. v. Consolidated Tire Co.*, 220 U. S. 428, 441, asserted that the "art was crowded with numerous prototypes and predecessors" which possessed all of the qualities of the patent in suit, giving the tribute of its praise to the prior art while giving to the patent in suit the tribute of its imitation. In rejecting a like contention by the infringer in the *Diamond Rubber* case, this Court said:

> "That the tire is an invention is fortified by all the presumptions, the presumption of the patent by that arising from the utility of the tire. And we have said that the *utility of a device may be attested by the litigation over it*, as litigation 'shows and measures the existence of the public demand for its use'" (p. 441).

Quite aside from the fact that the Court of Appeals ignored uncontroverted evidence proving that the patented sole has its claimed advantages, the decision below is con-

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[3] See plaintiff's Motion for Leave to File Petition for Reconsideration of Plaintiff-Appellant's Petition for Rehearing.

trary to the statutory presumption of validity and in direct conflict with the established law as laid down in decisions of this Court on the question of the burden of proof required of a patentee in patent infringement cases. In *Mumm v. Decker*, 301 U. S. 168, Chief Justice Hughes stated:

> "The issue of the patent is enough to show, until the contrary appears, that all of the conditions under which a discovery is patentable in accordance with the statutes have been met."

One of the conditions under which a discovery is patentable in accordance with the statutes is that the discovery possesses utility. The Courts below in holding the patent invalid on the ground that the patented sole lacks sufficient utility to be patentable, thus established a rule in the First Circuit that is contrary to the statute and in conflict wih decisions of this Court, such as *Mumm v. Decker, supra.* The novel rule now laid down by the First Circuit Court of Appeals would logically require the patent owner in every infringement suit in the First Circuit to offer proofs not only of the utility of the patented device (even where, as here, there is no evidence to the contrary), but also proofs that each of the other conditions for patentability set forth in the statutes has been met. The Patent Office has already determined that such conditions for patentability have been met when it issues the patent, and the statute and controlling decisions place the burden on the infringer to prove otherwise.

Certiorari should be granted in this case in order to resolve the clear conflict between the rule now applied in the First Circuit and that required by the statute and uniformly applied in the other Circuits.

**The Decision Below Establishes an Erroneous Rule of Law in the First Circuit that a Foreign Patent May be Modified in the Light of the Patent in Suit to Find Anticipation Contrary to the Long-Established Rule that a Foreign Patent is Anticipatory Only for What is Clearly and Definitely Expressed in It**

In addition to holding the Hack patent invalid for lack of invention for the reasons previously discussed, the Courts below held the patent to be anticipated by Lacoste's French patent No. 902,385. The disclosure of the Lacoste patent has been discussed heretofore and it is clear that the wooden sole with narrow saw cuts disclosed by Lacoste does not anticipate the Hack patent. Lacoste does not teach forward propulsion and the structure shown in the Lacoste patent does not and could not provide forward propulsion. While the Court of Appeals merely affirmed the holding of anticipation by Lacoste without discussion, the District Court did discuss the Lacoste patent to some extent in its Opinion and, no doubt impressed with the fact that Lacoste does show rearwardly inclined wooden support segments, held that there is no invention in substituting rubber for wood in the Lacoste sole and thereby found anticipation. In so doing the Court found a teaching in Lacoste that is not disclosed in the Lacoste patent. The Court refers to the fact that Lacoste recognizes rubber and leather as materials commercially used in shoe soles and, while that is an obvious truth, such reference in the Lacoste patent is to the fact that a Lacoste saw cut wooden sole or heel may be used in combination with a conventional rubber or leather sole. There is no teaching of any advantage to be gained by placing saw cuts in a rubber sole and obviously, since rubber has the required flexibility sought by Lacoste in a wooden sole, there would be no apparent advantage to be gained from placing saw cuts in a rubber sole. Lacoste certainly does not teach forward propulsion in a wooden sole, and there is no reason to assume

that one skilled in the art, looking only at the Lacoste patent, would recognize a teaching of forward propulsion if rubber were substituted for wood in Lacoste.

The District Court's Opinion further ignores limitations in Hack's claims in finding anticipation by Lacoste. Claim 2 states that the ribs are resilient and have tapering and rounded ends, while claim 3 says that the lower ends of the ribs are rounded and that the sides thereof diverge upwardly to a rounded juncture at the body of the sole. The tapering or upward divergence of the ribs is important in achieving the independent flexing of the ribs without one rib interfering with or limiting the flexing of the adjacent rib. The support segments in Lacoste even if made of rubber are so closely spaced by the narrow saw cuts that one segment would almost immediately engage an adjacent segment so as to interfere with and limit flexing to such an extent that little, if any, forward propulsion would be obtained. These factors were brushed aside by the trial Court.

In order to find anticipation by Lacoste, the District Court thus found it necessary to substantially modify the disclosure of Lacoste, first, by holding that Lacoste could be made of rubber rather than wood; then by ignoring limitations in the claims that are not present in Lacoste even if made of rubber, and, finally, and most important, by imparting a teaching to Lacoste, the concept of forward propulsion, that is nowhere disclosed in Lacoste or any other prior art and comes only from the teaching of the patent in suit. Under long standing authority, including decisions of this Court, a foreign reference cannot be modified in such a manner in order to anticipate a patent claim.

> "Patented inventions cannot be superseded by the mere introduction of a foreign publication of the kind, though of prior date, unless the description

> and drawings contain and exhibit a substantial representation of the patented improvement, in such full, clear, and exact terms as to enable any person skilled in the art or science to which it appertains, to make, construct, and practice the invention to the same practical extent as they would be enabled to do if the information was derived from a prior patent. Mere vague and general representations will not support such a defence, as the knowledge supposed to be derived from the publication must be sufficient to enable those skilled in the art or science to understand the nature and operation of the invention, and to carry it into practical use. Whatever may be the particular circumstances under which the publication takes place, the account published, to be of any effect to support such a defence, must be an account of a complete and operative invention capable of being put into practical operation.'" *Seymour v. Osborne*, 11 Wall. 516, 555.

The reconstruction of the Lacoste patent necessary to support the finding of anticipation is thus not only a hindsight reconstruction made in the light of the Hack patent but is not permitted under the controlling decisions of this Court. The Lacoste patent may be used as prior art for whatever is clearly and definitely expressed in it in applying the obviousness test of patentability to the Hack patent. The Courts below did not hold that Hack's invention was obvious in view of Lacoste or any other prior art and, clearly, since there is no teaching of the concept of forward propulsion in any of the prior art, including Lacoste, it cannot be said that Hack's invention is obvious in view of such prior art.

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[1] Webster's Patent Cases, 719; Curtis on Patents (3d ed.), §278, a; Hill v. Evans, 6 Law Times, N.S. 90; Betts v. Menzies, 4 Best & Smith, Q. B. 999.

## The Courts Below Have not Applied the Appropriate Standard of Invention in Determining the Question of Validity of the Hack Patent

The structure claimed by Hack is a simple one consisting of a resilient shoe sole having a series of integral ribs of specific form, relationship and location which function in a novel manner to produce a new and useful result.

By the specific form and arrangement of the ribs disclosed in the patent, the combination thus obtained achieves a new function or a new result that is nowhere disclosed or even suggested in the prior art. Under the recognized standards, this is patentable invention.

This Court has often had occasion to rule on the validity of patents claiming a combination of old elements. It is clear from this Court's most definitive pronouncement concerning the standard of invention to be applied to patent claims covering a combination of old elements that such a claim will be held invalid where the old elements perform or produce no new or different function or result. In *A & P v. Supermarket, supra*, this Court, while holding that patent claims covering an assembly of old elements should be scrutinized with care, was careful to qualify its admonition against validity of such claims by pointing out that such rule is to be applied when the old elements

> "perform or produce no new or different function or operation than that theretofore performed or produced by them."

Thus in the *A & P* case, this Court held that

> "a patent for a combination which only unites old elements with no change in their respective functions, such as is presented here, obviously withdraws what already is known into the field of its monopoly and diminishes the resources available to skillful men."

The plain meaning of the above language of this Court is that, when the old elements are united in such a way as to produce a change in their function, invention will be present unless the change that was made would have been obvious to one skilled in the art at the time the invention was made, the obviousness test now set forth in 35 U.S.C. 103.

The Court in the *A & P* case also stated that

> "Neither Court below has made any finding that old elements which made up this device perform any additional or different function in the combination than they perform out of it."

Again the Court is in effect saying that, if the old elements perform any additional or different function than they do in prior devices, the patent may be sustained. In the present case, Hack has given an old element—the ribs—a new form and arrangement which causes them to perform an additional and different function than such ribs have ever performed in the prior art. Two and two have been added together and the result is something more than four. That something additional is the entirely new result of forward propulsion, which is nowhere suggested in the prior art.

This Court's repeated reference in the *A & P* case to the lack of a new function or result in a combination of old elements as an indication of lack of invention is in accord with numerous earlier decisions of this Court dealing with combination patents wherein such patents were upheld when there was a new function or new result accomplished by the invention. Thus in *Seymour v. Osborne*, 11 Wallace 516, 548, it was stated:

> "Particular changes may be made in the construction and operation of an old machine so as to adapt it to a new and valuable use not known before, and to which the old machine had not been, and could not be, applied without those changes; and,

under those circumstances, if the machine, as changed and modified, produces a new and useful result, it may be patented, and the patent will be upheld under existing laws.[5]

"Such a change in an old machine may consist merely of a new and useful combination of the several parts of which the old machine is composed, or it may consist of a material alteration or modification of one or more of the several devices which entered into its construction, and whether it be the one or the other, if the change of construction and operation actually adapts the machine to a new and valuable use not known before, and it actually produces a new and useful result, then a patent may be granted for the same, and it will be upheld as a patentable improvement."[6]

In *Loom Co. v. Higgins*, 105 U. S. 580, the Court stated:

"* * * It may be laid down as a general rule, though perhaps not an invariable one, that if a new combination and arrangement of known elements produce a new and beneficial result, never attained before, it is evidence of invention" (P. 591).

In *Grinnell Washing Machine Co. v. Johnson Co.*, 247 U. S. 426, 432, the Court stated:

"Generally speaking, a combination of old elements in order to be patentable must produce by their joint action a novel and useful result, or an old result in a more advantageous way."

The Hack patent clearly meets the standard of invention set forth in the quoted decisions of this Court since

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[5] Bray v. Hartshorn, 1 Clifford, 541; Losh v. Hague, 1 Webster's Patents Cases, 207; Hindmarsh on Patents, 95; Phillips v. Page, 24 Howard, 166; Norman on Patents, 25.

[6] Park v. Little, 3 Washington Circuit Court, 196.

it does contribute a new function or a new result never before attained in the art.

It is clear that the Courts below have not tested the Hack patent by the appropriate standard of invention since they have refused to give the Hack patent any credit for the fact that a new function has been added which produces a new and beneficial result, and as a rationalization for such refusal they have discounted such function as being trivial or not present to any appreciable extent. The failure of the Courts below to apply the appropriate standard of invention derives from a failure to evaluate and recognize the new result achieved by the Hack sole, as shown by the evidence, against the claims made for it in the patent and a failure to recognize the total absence of such result in the prior art.

### Hack's Invention Represents a New and Beneficial Advance in the Art

The Hack patent has made a contribution to the sum of useful knowledge. It provides an entirely new function or result never before achieved or even contemplated in the prior art. The Hack patent does not withdraw anything already known from the resources available to skillful men but rather contributes to the shoe sole art by proviiding a new and beneficial result never before available to or perceived by those skilled in the art.

### Reasons Why the Writ of Certiorari Should be Granted

The writ of certiorari should be granted in this case because:

1. The First Circuit rule of law established by this case on the degree of utility necessary to support a patent is in conflict with 35 U.S.C. 101 and with the long-established

rule followed in other Circuits, in the Court of Customs and Patent Appeals and in the Patent Office.

2. The decision of the Court of Appeals authorizes the lower courts in the First Circuit to place an unwarranted burden of proof on a patent owner in an infringement suit contrary to the provisions of 35 U.S.C. 282.

3. The decisions below establish a new rule in the First Circuit that a foreign patent is anticipatory by what may be made out of it in the light of the patent in suit, contrary to the long-established rule on such issue that a foreign patent is limited to what is clearly and definitely expressed in it.

4. In view of the numerous infringement suits now pending in other Circuits to enforce the Hack patent against infringement, this case presents important questions under the patent statutes which should be resolved by this Court.

Wherefore, it is respectfully submitted that this Petition for Writ of Certiorari should be granted.

Respectfully submitted,

EDWIN J. BALLUFF,
CHARLES R. McKINLEY,
3153 Penobscot Building,
Detroit 26, Michigan;

WARREN C. HORTON,
208 South LaSalle Street,
Chicago 4, Illinois;

BENJAMIN W. COLMAN,
17320 West Eight Mile Road,
Southfield, Michigan,
*Attorneys for Plaintiff-Petitioner.*

*Of Counsel:*
IRVING F. TOWNSEND, JR.,
Emery, Booth, Miller & Townsend,
79 Milk Street,
Boston 9, Massachusetts.

# APPENDIX

## OPINION OF THE COURT OF APPEALS FOR THE FIRST CIRCUIT

May 3, 1962.

WOODBURY, *Chief Judge*. This is an appeal from a judgment dismissing a complaint for infringement of all three claims of United States Patent No. 2,710,461 for Resilient Shoe Soles issued to Nathan Hack on June 14, 1955. Claim 1 of the patent reads:

> "A resilient shoe sole formed with a series of spaced parallel resilient projections extending transversely of said shoe sole and at right angles to the length thereof, said projections being inclined rearwardly, whereby weight thereon causes a straight forward movement of the sole as said projections yield under weight."

Claim 2 adds that the transverse downwardly extending parallel projections have "tapering and rounded ends" and Claim 3 further adds that the sides of the projections diverge "upwardly to a rounded juncture with the body of said sole."

Hack conceded in the specification of his patent that there are many kinds of shoe soles "designed to give a springing action as the shoe moves down onto the supporting surface." And in that connection he specifically refers to soles having undulations or corrugations "in a straight vertical position." His assertion is that by inclining the transverse resilient ribs or corrugations "rearwardly from the sole of the shoe * * * a certain forward movement is imparted to the foot" as it strikes the floor or pavement[1] because the small rounded lower end of each resilient rib "fulcrums"

[1] He does not claim that there is any forward movement of the foot when walking on a soft surface.

on the floor as weight comes on the foot and the ribs tend to hinge forwardly as they flatten out. Stated in different terms, the theory of Hack's patent is that weight on the sole causes the projections to pivot forward on their lower edges and that this pivoting forces the shoe forward with each step. He says that the wearer of shoes equipped with his soles has the feeling of walking on air and enjoys an increase in the length of each step by the amount of the forward movement of the shoe as it strikes the floor, thereby saving energy because fewer steps are required to progress a given distance. And he says that this "forward propulsion," as he calls it, is unique in the art of shoe making and constitutes a significant advance (perhaps we should say "step forward") in that ancient art.

The District Court did not agree. It found after thorough trial at which experts for both parties testified at length that the Hack structure did not produce the advantages claimed for it, at least to any significant extent. More specifically it found that the plaintiff had not shown that the patented structure substantially increased the wearer's stride or that any advantage by way of saving energy or otherwise resulted from any increase in stride that it might produce, or that any increase in comfort or reduction of shock, and consequent fatigue in walking, was due to the structure rather than to the cushioning effect which might be produced by any sole of similar resilience. Furthermore the court found that the Hack patent was clearly anticipated by French patent No. 902,385 issued to Madame Lacoste in 1945.

Obviously the District Court was not persuaded by the testimony of the plaintiff's expert witness and the tests upon which he relied but on the contrary found the testimony of the defendant's expert based on his tests more

convincing. The court conceded that the plaintiff's rocking test, wherein a person wearing shoes with Hack soles stands with his feet together on a smooth hard surface and shifts his weight alternately forward and backward, moved forward an appreciable fraction of an inch with each rocking motion. But it concluded that this test did not truly simulate walking because there was no forward momentum of the body. Nor did it find tests conducted by the plaintiff's expert on a treadmill convincing. The most that the court found was that giving the Hack structure the benefit of every doubt it might add as much as 9/10ths of an inch to each stride. But it also found that an actual walking demonstration by the defendant's expert showed that a shoe with a resilient heel but an ordinary sole would add about 3/8ths of an inch to the stride.

Nor did the court find that the Hack soles had any practical advantage in that a wearer of the soles could walk with less expenditure of effort. The parties agreed that the amount of human energy expended can best be measured by tests determining the amount of oxygen consumed. And on the basis of such tests conducted by the experts for both parties the court concluded that there was no significant difference in the oxygen consumption of persons walking on Hack soles and persons walking on soles of other kinds.

On the basis of these findings the court concluded that it could not find that the Hack structure produced the advantages claimed for it to any appreciable extent. In summarizing the court said that it did not appear that the Hack structure substantially increased the wearer's stride or resulted in any advantage, by way of saving energy or otherwise, from any increase in stride it might produce. And the court added: "It cannot be found that any increase in

comfort or reduction in shock and fatigue is due to its peculiar structure rather than to the cushioning effect which would be produced by any sole made of similar resilient material."

A careful scrutiny of the testimony and the exhibits discloses ample evidence to support the District Court's findings of fact. Indeed, we think its findings, instead of possibly being clearly erroneous, are clearly correct. And on those findings the conclusion, be it one of fact or of law, of lack of invention is inescapable, for the most that can be said for the Hack structure is that it is but a "trifling device" contributing little if anything to the "real advancement" of the art to which it pertains. See *Atlantic Works v. Brady*, 107 U.S. 192, 200 (1882).

Nor can the commercial success of the structure save it, if for no other reason, because there is no evidence that its success was due to its intrinsic merit rather than to the extensive advertising campaign with which it was launched in the market. In fact, the evidence is clear that it failed permanently to capture any substantial segment of the shoe sole market, that the commercial success it enjoyed was only short lived, which supports the District Court's conclusion that the most probable explanation for its commercial success is that its novel appearance made it catch on as a fad or temporary style.

We also agree that the patent in suit was anticipated by the French patent to Lacoste referred to earlier in this opinion. A detailed analysis and discussion of that patent, however, would not serve any useful purpose in view of our conclusion that the court below was clearly correct in holding the Hack patent in its entirety invalid for lack of invention.

*Judgment will be entered affirming the judgment of the District Court.*